REMARKS/ARGUMENTS

Reconsideration and allowance of the above-identified application is respectfully requested in view of the present Amendment. The Official Action, mailed March 7, 2003, has been carefully reviewed. By this Amendment, claims 1, 9, 10 and 11 have been amended.

The Examiner has rejected claims 1 and 4-6 under 35 U.S.C. 102(b) as being anticipated by the Filippi, et. al. reference (U.S. Patent No. 5,883,301). It is respectfully submitted that a review of this reference reveals that it does not anticipate, disclose, suggest or make obvious the Applicants' invention. The Applicants' invention is directed to an apparatus and method for testing the integrity of vehicular fuel tanks. As such, the Applicants' invention includes a microprocessor that allows an external pressure source, such as a compressed nitrogen supply, to pressurize the fuel tank to a first pressure level. Once pressure stabilization has been achieved within the fuel tank, the external pressure source and a reference orifice contained within the tester are closed allowing the pressure within the tank to decay, if a leak is present within the tank. If no leaks are present within the fuel tank, the tank passes the test. If, however, a large leak is present in the fuel tank, the pressure within the tank decays rapidly and the fuel tank fails the test. If a relatively small fuel tank leak exists, the fuel tank is repressurized by the external pressure source and a test is performed comparing the time required for the pressure within the tank to decay from a first pressure level to a second pressure level through both the leak and the reference orifice contained within the tester to the time required for such a pressure decay to occur through only the leak.

By utilizing the ratio of the time required for the pressure within the tank to decay from a first pressure level to a second pressure level when only the leak within the tank is present and the time required for same to occur when both the leak within the tank and the reference orifice contained within the tester are present, a determination can be make whether the leak is of such a size that it is acceptable.

The Filippi, et. al. reference (U.S. Patent No. 5,883,301) discloses a gasoline line leak detection system. As such, the apparatus disclosed in this reference is utilized to detect leaks in the piping between an underground fuel storage tank in a gas station and the fuel dispenser on the gas pump. In contrast, the Applicants' invention is used for testing the evaporative fuel system on a vehicle. The calibrated leak shown in the Filippi, et. al. reference is used only as part of the installation process for the underground fuel storage tank and the fuel dispenser in order to calibrate the overall system for subsequent leaks. Once calibration has been completed, the calibrated leak is removed from the system. The calibrated leak is not included as part of the permanent testing apparatus used to make actual day to day measurements. The reference orifice 23 referred to by the Examiner in the Filippi, et. al. reference is actually a leak which exists in the pipeline which interconnects the fuel storage tank 20 to the fuel dispenser 12. In contrast, in the Applicants' invention, the fuel tank tester includes reference orifice contained within the tester and means to open and close this orifice thus allowing the user to effectively calibrate the tester as part of every test. Thus, the tests performed using the Applicants' tester are dynamic tests since the tester compensates for actual test conditions during every test. In contrast, the tests

performed by the Filippi, et al device are static tests since a leak which may exist in the piping is compared to a calibrated leak which was utilized at the time of installation of the underground fuel storage tank and the fuel dispenser and no compensation is provided in the Filippi, et. al. reference for changes in actual test conditions. It should also be noted that the Filippi, et. al. reference assumes that no leaks are present at the time of installation of the fuel storage tank and the fuel dispenser, and thus, assumes that the only leak that is present is through the calibrated leak at the time of installation of the storage tank and the fuel dispenser. This may not be the case since leaks can be easily introduced into the system during the installation of the system.

As previously stated, the Applicants' invention determines the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through any leaks which might exist in the fuel tank and the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through the combination of any leaks which might exist in the fuel tank and a reference orifice contained within the tester, and then compares these times with predetermined time values. In addition to the aforementioned structural differences between the apparatus disclosed in the Filippi, et. al. reference and the Applicants' invention, the Filippi, et. al. reference does not determine the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through the combination of any leaks which might exist in the fuel tank and a reference orifice, since a reference orifice is not present during the testing procedure utilized by the Filippi, et. al. reference. A calibration or reference orifice is utilized during the initial installation of the

underground fuel storage tank and the fuel dispenser in the Filippi, et. al. reference, however, the calibration or reference orifice is removed after system installation and thus not utilized for any future tests. In view of the foregoing differences, it is respectfully submitted that the Filippi, et. al. reference does not anticipate, disclose, suggest or make obvious the Applicants' invention and that the Applicants' invention is patentable thereover. However, in order to more fully define the Applicants' invention, independent claim 1 has been amended to specifically state that the reference orifice is contained within the tester.

The Examiner has rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over the Kammeraad, et. al. reference (U.S. Patent No. 5,507,176) in view of the Dodge reference (U.S. Patent No. 4,575,807) and has also rejected claims 9, 10 and 11 under 35 U.S.C. 103(a) as being unpatentable over the Filippi, et. al. reference (U.S. Patent No. 5,883,301) in view of the Dodge reference (U.S. Patent No. 4,575,807). It is respectfully submitted that a review of these references, taken individually or in combination, reveals that they do not disclose, suggest, or make obvious the Applicants' invention. The Kammeraad, et. al. reference discloses an evaporative emissions testing apparatus that connects to a fuel cap and a fuel filler neck. In contrast, the Applicant's invention is not connected to the fuel vehicle cap. In addition, the apparatus disclosed in the Kammeraad, et. al. reference does not utilize a reference orifice and means to open and close the reference orifice for comparison of pressure decay rates. Furthermore, the Kammeraad, et. al. apparatus utilizes an acceptable pressure drop over a fixed period of time. The Applicants' invention does

not utilize any fixed period of time to determine pressure drops but rather compares pressure drop measurements on a ratio basis. The Dodge reference (U.S. Patent No. 4,575,807) is directed to a method and apparatus for determining a leakage rate in a vehicle transmission. In contrast, the Applicants' invention is used to determine leakage rates in the evaporative fuel system on a vehicle, and thus, the Dodge reference discloses non-analogous art since it is not in the field of the Applicants' endeavor or reasonably pertinent to the particular problem with which the Applicant is concerned. In addition, the apparatus disclosed in the Dodge reference does not utilize a reference orifice and means to open and close the orifice for comparison of pressure decay rates. In view of the foregoing structural and operational differences between these references and the Applicants' invention and further in view of the fact that the Dodge reference discloses non-analogous art, it is respectfully submitted that the Applicants' invention is not obvious in view of these references, and that the Applicants' invention is patentable thereover. However, in order to more specifically define the Applicants' invention, claims 9 and 11 have been amended to specifically recite that the method disclosed therein utilizes a fuel tank tester connected to the fuel tank to be tested and that the tester has a reference orifice contained therein, and claims 10 and 11 have been amended to include the limitation that the reference orifice is contained in the fuel tank tester.

In view of this Amendment, it is respectfully submitted that the above application is in condition for allowance, and such action is requested.

Respectfully submitted,

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